

Product datasheet

Recombinant human EPO-R protein (Fc Chimera)
 ab84001

1 Image

Description

Product name	Recombinant human EPO-R protein (Fc Chimera)
Biological activity	The ED ₅₀ of ab84001 is typically 0.15-2.5 ng/ml as measured by its ability to neutralize EPO-mediated proliferation of TF-1 cells.
Purity	> 95 % SDS-PAGE.
Expression system	HEK 293 cells
Accession	P19235
Protein length	Protein fragment
Animal free	No
Nature	Recombinant
Species	Human
Sequence	

Theoretical sequence:
 APPPNLPDPKFESKAALLAARGPEELLCFTERLEDLV
 CF WEEAASAGV
 GPGNYSFSYQLEDEPWKLCRLHQAPTARGAVRFWCS
 LPT ADTSSFVPL
 ELRVTAASGAPRYHRVIHINEVLLDAPVGLVARLADE
 S GHVVLRWLP
 PPETPMTSHIRYEVDVSAGNGAGSVQRVEILEGRTEC
 VL SNLRGRTRY
 TFAVRARMAEPSFGGFWSAWSEPVSLLTPSDLDPRIP
 KV DKKVEPKSC
 DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPE
 V TCVVVDVSH
 EDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVS
 VLT VLHQDWLNG
 KEYKCRVSNKALPAPIEKTISKAKGQPREPQVYTLPPS
 R DELTKNQVS
 LTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSD
 GS FFLYSKLTV
 DKSRWQQGNVFCSSVMHEALHNHYTQKSLSLSPGK

Amino acids 25 to 250

Additional sequence information Encodes the signal peptide & extracellular domain of human Erythropoietin receptor (EPO R, aa 1-250) fused to the Fc region IgG1 (aa 93-330). Chimeric protein was expressed in modified 293 cells.

Specifications

Our [Abpromise guarantee](#) covers the use of **ab84001** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	Functional Studies SDS-PAGE
Form	Lyophilised
Additional notes	Previously labelled as EPO Receptor.

Preparation and Storage

Stability and Storage	Shipped at 4°C. After reconstitution store at -20°C. Avoid freeze / thaw cycles. Constituents: 1% Human serum albumin, 10% Trehalose This product is an active protein and may elicit a biological response in vivo, handle with caution.
Reconstitution	It is recommended that 0.5 ml of sterile phosphate-buffered saline be added to the vial. Following reconstitution, short-term storage at 4°C is recommended, and longer-term storage of aliquots at -18 to -20°C. Repeated freeze thawing is not recommended.

General Info

Function	Receptor for erythropoietin. Mediates erythropoietin-induced erythroblast proliferation and differentiation. Upon EPO stimulation, EPOR dimerizes triggering the JAK2/STAT5 signaling cascade. In some cell types, can also activate STAT1 and STAT3. May also activate the LYN tyrosine kinase. Isoform EPOR-T acts as a dominant-negative receptor of EPOR-mediated signaling.
Tissue specificity	Erythroid cells and erythroid progenitor cells. Isoform EPOR-F is the most abundant form in EPO-dependent erythroleukemia cells and in late-stage erythroid progenitors. Isoform EPOR-S and isoform EPOR-T are the predominant forms in bone marrow. Isoform EPOR-T is the most abundant form in early-stage erythroid progenitor cells.
Involvement in disease	Defects in EPOR are the cause of erythrocytosis familial type 1 (ECYT1) [MIM:133100]. ECYT1 is an autosomal dominant disorder characterized by increased serum red blood cell mass, elevated hemoglobin and hematocrit, hypersensitivity of erythroid progenitors to erythropoietin, erythropoietin low serum levels, and no increase in platelets nor leukocytes. It has a relatively benign course and does not progress to leukemia.
Sequence similarities	Belongs to the type I cytokine receptor family. Type 1 subfamily. Contains 1 fibronectin type-III domain.
Domain	The WSXWS motif appears to be necessary for proper protein folding and thereby efficient intracellular transport and cell-surface receptor binding. The box 1 motif is required for JAK interaction and/or activation. Contains 1 copy of a cytoplasmic motif that is referred to as the immunoreceptor tyrosine-based inhibitor motif (ITIM). This motif is involved in modulation of cellular responses. The

phosphorylated ITIM motif can bind the SH2 domain of several SH2-containing phosphatases.

Post-translational modifications

On EPO stimulation, phosphorylated on C-terminal tyrosine residues by JAK2. The phosphotyrosine motifs are also recruitment sites for several SH2-containing proteins and adapter proteins which mediate cell proliferation. Phosphorylation on Tyr-454 is required for PTPN6 interaction, Tyr-426 for PTPN11. Tyr-426 is also required for SOCS3 binding, but Tyr-454/Tyr-456 motif is the preferred binding site.

Ubiquitinated by NOSIP; appears to be either multi-monoubiquitinated or polyubiquitinated. Ubiquitination mediates proliferation and survival of EPO-dependent cells.

Cellular localization

Cell membrane and Secreted. Secreted and located to the cell surface.

Images



Lane 1 – MW markers; Lane 2 – ab84001 ; Lane 3 – ab84001 treated with PNGase F to remove potential N-linked glycans; Lane 4 – ab84001 treated with a glycosidase cocktail to remove potential N- and O linked glycans. 10 µg of protein was loaded per lane. Gel was stained with Deep Purple™.

Appearance of additional band at lower MW after treatment with PNGase F indicates the presence of N-linked glycans. A possible subsequent drop in MW after treatment with a glycosidase cocktail indicates O-linked glycans may be present. Additional high MW bands in lane 4 are glycosidase enzymes.

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